IN THE CLAIMS:

1. (Currently Amended) An optical communication system to extend a range or data communications comprising:

a mobile communication device with at least one associated optical transmitter and an optical receiver coupled thereto;

at least one software application capable of executing on the mobile device and communicating a plurality of message bits to at least one external device using the optical transmitter and the optical receiver;

at least one transmit stack coupled to the optical transmitter so that a bit placed in the transmitter stack is transmitted out the optical transmitter;

~~an output buffer~~;

~~an optical transmitter associated with the device;~~

a range extender application which executes without any hardware modification to the mobile device, the range extender application operable for extending a physical range of at least the optical transmitter by taking each message bit sent by the software application and converting the message bit to ~~wherein the transmitter transmits optical data comprising a message bit that is represented by~~ a set of a plurality of optical transmission pulses ~~for each bit in the output buffer~~to be placed on the transmit stack for optical transmission via the optical transmitter to the external device.

2. (Currently Amended) The optical communication system of claim 1, wherein the set~~plurality~~ of optical transmission pulses are repetitive and identical ~~for~~to each bit placed in the ~~output buffer~~transmit stack.

3. (Currently Amended) An apparatus to extend a range of infrared data communication, the apparatus comprising:

a device for receiving user inputs;

~~an~~at least one infrared transmitter and at least one infrared receiver associated with the device;

at least one software application capable of executing on the device and communicating a plurality of message bits to at least one external device using the infrared transmitter;

at least one transmit stack coupled to the infrared transmitter so that a bit placed in the transmitter stack is transmitted out the infrared transmitter; and

a range extender application which executes without any hardware modification to the device, the range extender application operable for extending the physical range of at least the optical transmitter by taking each message bit sent by the software application and converting the message bit to a set of a plurality of optical transmission pulses to be placed on the transmit stack for optical transmission via the infrared transmitter to the external device~~, wherein the transmitter transmits infrared data as signals wherein a bit of infrared data is represented by a plurality of identical pulses~~.

4. (Original) The apparatus as defined in claim 3, wherein the device for receiving user inputs comprises pre-existing unmodified hardware devices selected from the group of pre-existing unmodified hardware devices of: a personal data assistant, a 3Com Palm Pilot compatible device, and a Windows CE based device.

5. (Currently Amended) The apparatus as defined in claim 3, further comprising:

infrared receiver associated with the device; and

a display for displaying a visual representation of incoming signal strength by the infrared receiver.

6. (Currently Amended) The apparatus as defined in claim ~~3~~5, wherein the incoming signal strength is measured ~~through the use of an incoming synchronization header~~by counting a number of error packets in pulses received by the infrared receiver.

7. (Currently Amended) The apparatus as defined in claim ~~3~~5, wherein the incoming signal strength is measured by ~~through~~ a summation of ~~received~~ pulses received by the infrared receiver.

8. (Currently Amended) The apparatus as defined in claim ~~3~~5, wherein the incoming signal strength is measured through ~~graduation~~determination of at least one ~~the~~ pulse width of pulses received by the infrared receiver ~~and therefore the energy of a synchronizing signal~~.

9. (Currently Amended) The method as defined in claim 3, wherein the incoming signal strength is measured and compared to a predefined threshold and in response to the incoming signal strength being greater to a threshold a byte in a receive stack associated with the infrared receiver is set ~~apparatus further comprises an infrared receiver for receiving incoming signals from a stationary object wherein the infrared receiver and infrared transmitter comprise a transceiver for asymmetric communication for slow transmission and fast reception of information~~.

10-19 (Cancelled)

20. (Currently Amended) A method for extending a range of infrared data communication between a user device and another ~~object~~device, the method on the user device comprising the steps of:

receiving user inputs on a user device; ~~and~~

transmitting ~~infrared~~optical data as signals from an ~~infrared~~optical transmitter associated with the device, whereby the optical data corresponds to a plurality of message bits sent by at least one software application executing on the user device; and

executing a range extender application which executes without any hardware modification to the user device, the range extender application operable for extending a physical range of the optical transmitter by taking each message bit sent by the software application and converting the message bit to a set of a plurality of optical transmission pulses to be placed on a transmit stack for transmission via the optical transmitter to an another device ~~wherein a bit of infrared data is represented by a plurality of identical pulses~~.

21. (Original) The method as defined in claim 20, wherein the step of receiving user inputs includes receiving user inputs on a user device comprising user pre-existing unmodified hardware devices selected from the group of user pre-existing unmodified hardware devices of: a personal data assistant, a 3Com Palm Pilot compatible device, and a Windows CE based device.

22. (Currently Amended) The method as defined in claim 20, further comprising ~~the programming instruction of~~:

~~a display for~~ displaying, on a display, a visual representation of incoming signal strength by an optical receiver associated with the user device.

23. (Original) A computer readable medium containing programming instructions for extending a range of infrared data communication between a user device and another ~~object~~device, the method on the user device, the computer readable medium comprising the programming instructions of:

receiving user inputs on the user device; ~~and~~

transmitting ~~infrared~~optical data as signals from an ~~infrared~~optical transmitter associated with the device, whereby the optical data corresponds to a plurality of message bits sent by at least one software application executing on the user device; and

executing a range extender application which executes without any hardware modification to the user device, the range extender application operable for extending a physical range of the optical transmitter by taking each message bit sent by the software application and converting the message bit to a set of a plurality of optical transmission pulses to be placed on a transmit stack for transmission via the optical transmitter to an another device

~~wherein a bit of infrared data is represented by a plurality of identical pulses~~.

24. (Original) The computer readable medium as defined in claim 23, wherein the programming instructions of receiving user inputs includes receiving user inputs on a user device comprising user pre-existing unmodified hardware devices selected from the group of user pre-existing unmodified hardware devices of: a personal data assistant, a 3Com Palm Pilot compatible device, and a Windows CE based device.

25. (Currently Amended) The computer readable medium as defined in claim 23, further comprising the programming instruction of:

displaying, on a display, a visual representation of incoming signal strength ~~on a display~~ by the optical receiver associated with the user device.